



**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND
INTERFERENCES**

In re patent application of

Docket No. P27323

Claude Basso, *et al.*

Serial No.: 09/544,314

Group Art Unit: No.2126

Filed: April 6, 2000

Examiner: Cao, Diem K.

For: **INTER PROCESS COMMUNICATION
IN A DISTRIBUTED CP AND NP ENVIRONMENT**

APPEAL BRIEF UNDER 37 C.F.R. § 41.37(a)

Commissioner for Patents
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04/27/2005 LWONDIM1 00000033 500563 09544314

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Sir:

Appellants have filed a timely Notice of Appeal from the Final Office Action, on January 12, 2005. A single copy of this brief is provided pursuant to 35 U.S.C. § 41.37(a).

Appellants herein petition for a one (1) month extension of time under 35 U.S.C. § 1.136(a)(1). A check in the amount of \$120.00 is attached hereto to cover the fee for the one month extension of time. Please charge International Business Machine Corporation's Deposit Account No. 50-0563 in the amount of \$500.00 (37 C.F.R. § 41.20 (b)(2)) to cover the fee for filing this appeal brief. If additional extensions of time are necessary, then such extensions of time are hereby petitioned under 37 C.F.R. § 1.136(a), and any fees required therefor (including any additional fees for filing of the Appeal

Brief) are hereby authorized to be charged, or overpayment credited, to IBM Deposit Account 50-0563.

REAL PARTY IN INTEREST

The real party in interest in this appeal is International Business Machine Corporation, assignee of the entire interest in the above-identified application.

RELATED APPEALS AND INTERFERENCES

The Appellants, their legal representatives and the Assignee are not currently aware of any appeal that may directly affect or be indirectly affected by or have some bearing on the Board's decision in this appeal. Attached hereto is a Related Proceedings Appendix showing no related appeals or interferences.

STATUS OF THE CLAIMS

Claims 1 – 10 and 13 are currently pending.

Claims 11 and 12 have been canceled. No claims have been withdrawn or allowed.

The claims in issue are attached in the "Claims Appendix" attached herewith.

STATUS OF AMENDMENTS

All prior amendments to the application have been entered.

SUMMARY OF CLAIMED SUBJECT MATTER

Independent Claims 1 and 5

The invention recited by claim 1 is directed to a method of inter process communication (IPC) between processors in a network processing environment. (Pg. 1, lines 5-8.) The method includes providing software enabled functions that open and close inter process communication paths for transmitting and receiving of inter process communication frames. (Pg. 4, lines 10-20.) The method further includes providing software enabled functions that allow the inter process communication frames to be stacklessly transmitted to one or several processors in the network processing environment. (Pg. 8, lines 2-8.) Upon calling an open software transmit/receive IPC path function, the method selects by software either data or control path in the network processing environment to transmit or receive the inter process communication frames. The inter process communication frames are transmitted and received simultaneously and include guided frames. (Pg. 4, lines 1-10) See also, Figure 2.

Claim 5 is directed to an inter process communication (IPC) system providing communication between processors in a network processing environment. (Pg. 1, lines 5-8.) The system which includes software enabled functions that open and close inter process communication paths for transmitting and receiving of inter process communication frames. (Pg. 3, lines 20-25, Pg. 8, lines 5-10.) The system further includes software enabled functions that allow the inter process communication frames to be stacklessly transmitted to one or several processors in the network processing environment. (Pg. 8, lines 5-8.) A means for selecting by software either data or control path in the network processing environment transmits or receives the inter process communication frames in response to calling an open software transmit/receive IPC path function. (Pg. 4.) The means may be the NPTS 100 which supports the following frame formats and flows:

- Control flows based on guided frames

- Data flows based on data frames
- Inter Process Communication (IPC) flows based on data frames.

(Pg. 3, line 20 to Pg. 4, line 10.)

The inter process communication frames are transmitted and received simultaneously and include guided frames. (Pg. 4, lines 1-10.)

Independent Claim 13

The invention recited by claim 13 is directed to a method of inter process communication (IPC) between processors in a network processing environment. The steps include providing software enabled functions that open and close inter process communication paths for transmitting and receiving of inter process communication frames and providing software enabled functions that allow the inter process communication frames to be stacklessly transmitted to one or several processors in the network processing environment. (Pg. 1, lines 5-8, Pg. 3, lines 20-25, Pg. 8, lines 5-10.) Upon calling an open software transmit/receive IPC path function, the method selects by software either data or control path in the network processing environment to transmit or receive the inter process communication frames. (Pg. 4 and Pg. 5, lines 10-20, with emphasis on line 13.) The transmitting and receiving of the inter process communication frames occurs synchronously. (Pg. 4, lines 1-10.)

**GROUNDS OF REJECTION TO BE
REVIEWED ON APPEAL**

1. Claims 1-2, 5-6 and 9-13 are rejected under 35 U.S.C. §103(a) for being unpatentable over U.S. Patent No. 6,233,619B1 issued to Narisi et al. (“Narisi”).
2. Claims 3-4 and 7-8 are rejected under 35 U.S.C. §103(a) over Narisi in view of U.S. Patent No. 5,802,278 to Isfeld, et al. (“Isfeld”).

ARGUMENT

REJECTION UNDER 35 U.S.C. 103(a)

Claims 1-2 and 5-6

Appellant appeals this rejection, which is premised on the Examiner's argument that the claimed system and method is indistinguishable from the system described by Narisi. Appellant respectfully traverses the Examiner's arguments and submits that the various features in the claims are distinct from that disclosed by Narisi and, moreover, Narisi actually teaches away from the claimed features.

In order to reject a claim under 35 U.S.C. §103(a), MPEP 2143, states, in part:

"To establish a *prima facie* case of obviousness,... there must be some suggestion or motivation, either in the references themselves or in knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine the reference teachings.... Finally, the prior art reference (or references when combined) must teach or suggest all of the claimed limitations."

The invention is directed to a lightweight, stackless, method and system to provide inter process communication (IPC) between processors in a network. Software enabled functions provide for opening and closing inter process communication paths for transmitting and receiving communication frames in the network environment. The software functions may select either data or control paths to transmit or receive the frames. The invention provides light-weight IPC protocol and does not require a stack on each processor to accomplish the IPC. In previous methods, layers of software stacks were employed to enable IPC communication between processors in a network environment. These stacks are expensive and require additional management. The

invention also provides headers in communication frames to exchange various frame formats. The inter process communication frames include guided frames

More specifically, claims 1 and 5 are amended to include, in part :

“wherein the inter process communication frames are transmitted and received simultaneously and include guided frames” (Emphasis added)

However, Narisi does not disclose or suggest at least guided frames or simultaneous transmission, as taught by the invention and recited in claims 1 and 5. Guided frames provide for distinct functions typically including highly efficient configuration updates among blades.

Narisi is directed to a system that enables a first network application on a first system to communicate with a second system application over interconnection using native mechanisms rather conventional network communications such as TCP/IP. In Narisi, asynchronous methods of communication are shown with a second system application. The Examiner admits that Narisi uses asynchronous communications. (See , response to argument (1) of the Advisory Action.) The Narisi invention also provides a messaging subsystem (MSS) which provides general purpose transport interfaces between the systems using a dialog. The MSS function includes means for performing management functions such as establish and receive information about dialogs. The MSS also includes a means for passing data and control information over the dialogs.

Narisi simply does not disclose or suggest at least “inter process communication frames ... transmitted and received simultaneously and including guided frames” as recited in claims 1 and 5. Guided frames provide for distinct functions typically including highly efficient configuration updates among blades.

The Examiner admits that that Narisi does not teach synchronous operations. (See Advisory Action, response to argument (2). In fact, the Examiner specifically states, in the Advisory Action:

In response to argument (2), examiner submits that Narisi teaches away from synchronous operations....

Appellants certainly agree with the Examiner. For example, Narisi teaches asynchronous transmitting and receiving at col. 23, line 36-43, which discloses:

“...all input under QSP 76 is asynchronous – data is queued onto a list awaiting read requests to be issued from the host...” (Emphasis added)

Further, at col. 47, lines 49-51, Narisi discloses:

“The TDI-Client 98 can invoke an asynchronous receive operation, providing a buffer into which the transport copies input data.” (Emphasis added)

As shown by these passages, the Narisi inter-process communication operations are asynchronous and, as such, simultaneous transmission (such as synchronous transmissions of inter process frames) is not contemplated. This reference, in fact, teaches away from the claimed invention.

Appellants also submit that Narisi does not teach simultaneous operations. In fact, the Examiner admits that Narisi does not teach synchronous operations, which is the same as simultaneous operations. The Webster’s online dictionary defines “asynchronous” as

1 : not synchronous

Therefore, by definition, Narisi actually teaches away from simultaneous or synchronous operations. This is in contrast to the invention where simultaneous, e.g., synchronous, operations are indeed contemplated. Synchronous includes such aspects as simultaneous, same phase, same timing, same period, same rate and/or related co-dependency, as one of ordinary skill in the art would recognize and which should be recognized by the Examiner. This concept is simply not present in Narisi and, in fact, as shown, the opposite is disclosed, as admitted by the Examiner in the Advisory Action.

The Examiner also appears to present contradictory arguments. Appellant submits that the Examiner admits to the fact that the claimed invention is directed to synchronous transmission. In the Advisory Action, the Examiner states:

The recited limitations require the sending and receiving of communication frames to occur simultaneous or synchronously or at the same time. The claims only require the system to be able to receive data while it is sending data.

The Examiner, though, is of the opinion that the system of Narisi would be able to receive data from one path while sending data on another path. The ability to send and receive data at the same is independent of a blocking or non-blocking operation (synchronous or asynchronous operations), according to the Examiner. Appellant does not agree with this argument. Narisi is specifically directed to asynchronous communications and does not contemplate synchronous communications, as discussed above. Thus, Narisi does not contemplate the features of the claimed invention.

The Examiner also asserted that:

“However, Narisi teaches each MSS component includes means to allow local and remote users to exchange data independent of which interconnect is being employed (col. 8, lines 27-36) and a plurality of dialogs are created for a plurality of pairs of the first and second applications (col. 9, lines 31-37). Therefore, one application can exchange data to two or more applications at the same time. . . i.e., receiving data from one application and transfer data to another application synchronously.”

However, the Examiner’s argument is not directed to inter-process frames but, rather, to higher level operations such as dialogs, which might occur “simultaneously” (as viewed from a much higher perspective). However, these cited passages demonstrate nothing about inter-process frames occurring synchronously and/or simultaneously.

Further, since Narisi teaches away from synchronous messaging operations (e.g., inter-process frames), there would be no motivation to combine the system of Narisi with a system employing synchronous inter-process frame operations, along with the stackless operations and other features, as taught by the invention.

Appellant submits that it is not obvious to employ synchronous inter-process frame operations in a stackless system as taught by the invention. In any event, though, even if it was “popular”, assuming *arguendo*, such synchronous operations still could not be used in the Narisi operations due to the teaching of the asynchronous operations.

Isfeld is directed to a high performance scalable networking bridge/router system for interconnecting a plurality of networks including an internet protocol (IP). Isfeld does not supply the missing features of Narisi. Thus, this reference would not be applicable to any rejection of the independent claims. Since, Isfeld does not supply the missing feature, i.e., guided frames, of Narisi; Applicant submits that the dependent claims 2-4 and 7-8 are at least allowable due to their dependency from independent claims 1 and 5, respectively, and requests the withdrawal of the 103(a) rejection of claims.

Claim 13

Independent claim 13 is also distinguishable over the Narisi reference. Claim 13 recites

....wherein the transmitting and receiving of said inter process communication frames occurs synchronously.

As discussed above, Narisi does not show or suggest synchronous transmission and receiving of inter process communication frames.

Claims 9 and 10

As to claims 9 and 10, the header information that the Examiner cites in Narisi (col. 3, line 63 to col. 4, line 17; col. 18, lines 16-25; col. 24, lines 11-28 and col. 29, lines 1-25) does not disclose exchanging frame formats as in the recited claims. Rather, Narisi discloses at col. 3, line 63 to col. 4 line 17 that the header provides the station identification for which the data is intended, not for exchanging formats. At col. 18, lines 16-25, no headers to exchange formats are disclosed but rather a fixed field MSS as shown in Figure 10. Also, col. 24, lines 11-28, is silent as to what function this header serves in the operations. It would be mere conjecture on the Examiner's part, and even may amount to impermissible hindsight reasoning, to suggest that this header serves the same functions as recited in the claimed invention. To conclude otherwise can only be concluded by first reading Appellants' disclosure.

Also, at col. 29, lines 1-15, Narisi teaches a fixed format MSS (see col. 28, line 14-17). At this passage, Narisi discloses that the MSS does not have any internal data and all variables are global, hence, a fixed format structure whereby a header is not required. Further, at the Examiner's cited passage (col. 29, lines 1-15) only a pointer to a header

and size are disclosed without any explanation as to what function the header serves. Therefore, there is no disclosure or suggestion that the header is for exchanging formats as required by claims 9 and 10. Therefore, these features are not present in Narisi and the rejections should be withdrawn.

CONCLUSION

In summary, neither Narisi alone nor the combination of Narisi and Isfeld teach or suggest the features of the claimed invention. Therefore, the references do not provide evidence that would support a conclusion of obviousness under 35 U.S.C. §103(a). Appellants thus respectfully submit that the rejections of claims 1-10 and 13 are in error and that reversal is warranted in this case.

Respectfully submitted,



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CLAIMS APPENDIX

A copy of the claims involved in the appeal is provided below.

Claim 1: A method of inter process communication (IPC) between processors in a network processing environment, comprising the steps of:

- a) providing software enabled functions that open and close inter process communication paths for transmitting and receiving of inter process communication frames;
- b) providing software enabled functions that allow said inter process communication frames to be stacklessly transmitted to one or several processors in said network processing environment; and
- c) upon calling an open software transmit/receive IPC path function, selecting by software either data or control path in said network processing environment to transmit or receive said inter process communication frames, wherein the inter process communication frames are transmitted and received simultaneously and include guided frames.

Claim 2: The method of inter process communication (IPC) between processors in a network processing environment recited in claim 1, wherein the software enabled functions that open and close inter process communication paths for transmitting and receiving of inter process communication frames perform the steps of:

- determining if an IPC path function is a send or receive function; and
- if a receive function, calling a receive IPC function.

Claim 3: The method of inter process communication (IPC) between processors in a network processing environment recited in claim 2, wherein the software enabled functions that allow said inter process communication frames to be transmitted to one or several processors in said network processing environment comprise the steps of:

determining if an IPC frame to be sent is to be unicast or multicast; if multicast, calling a multicast transmit function; but if unicast, calling a unicast transmit function.

Claim 4: The method of inter process communication (IPC) between processors in a network processing environment recited in claim 3, wherein after calling one of said receive IPC, multicast transmit or unicast transmit functions, further performing the step of closing a software transmit/receive IPC path function.

Claim 5: An inter process communication (IPC) system providing communication between processors in a network processing environment, comprising:

- a) software enabled functions that open and close inter process communication paths for transmitting and receiving of inter process communication frames;
- b) software enabled functions that allow said inter process communication frames to be stacklessly transmitted to one or several processors in said network processing environment; and
- c) means for selecting by software either data or control path in said network processing environment to transmit or receive said inter process communication frames in response to calling an open software transmit/receive IPC path function,
wherein the inter process communication frames are transmitted and received simultaneously and include guided frames.

Claim 6: The inter process communication (IPC) system providing communication between processors in a network processing environment recited in claim 5, wherein the software enabled functions that open and close inter process communication paths for transmitting and receiving of inter process communication frames comprise:

means for determining if an IPC path function is a send or receive function; and

if a receive function, means for calling a receive IPC function.

Claim 7: The inter process communication (IPC) system providing communication between processors in a network processing environment recited in claim 6, wherein the software enabled functions that allow said inter process communication frames to be transmitted to one or several processors in said network processing environment comprise:

means for determining if an IPC frame to be sent is to be unicast or multicast;

if multicast, means for calling a multicast transmit function; but
if unicast, means for calling a unicast transmit function.

Claim 8: The inter process communication (IPC) system providing communication between processors in a network processing environment recited in claim 7, further comprising means closing a software transmit/receive IPC path function after one of said receive IPC, multicast transmit or unicast transmit functions have been called.

Claim 9: The method of claim 1, wherein said interprocess communication frames include headers to exchange frame formats.

Claim 10: The method of claim 5, wherein said interprocess communication frames include headers to exchange frame formats.

Claim 13: A method of inter process communication (IPC) between processors in a network processing environment, comprising the steps of:

a) providing software enabled functions that open and close inter process communication paths for transmitting and receiving of inter process communication frames;

- b) providing software enabled functions that allow said inter process communication frames to be stacklessly transmitted to one or several processors in said network processing environment; and
- c) upon calling an open software transmit/receive IPC path function, selecting by software either data or control path in said network processing environment to transmit or receive said inter process communication frames, wherein the transmitting and receiving of said inter process communication frames occurs synchronously.

EVIDENCE APPENDIX

This section lists evidence submitted pursuant to 35 U.S.C. §§1.130, 1.131, or 1.132, or any other evidence entered by the Examiner and relied upon by Appellant in this appeal, and provides for each piece of evidence a brief statement setting forth where in the record that evidence was entered by the Examiner. Copies of each piece of evidence are provided as required by 35 U.S.C. §41.37(c)(ix).

NO.	EVIDENCE	BRIEF STATEMENT SETTING FORTH WHERE IN THE RECORD THE EVIDENCE WAS ENTERED BY THE EXAMINER
1	N/A	N/A

RELATED PROCEEDINGS APPENDIX

Pursuant to 35 U.S.C. §41.37(c)(x), copies of the following decisions rendered by a court of the Board in any proceeding identified above under 35 U.S.C. §41.37(c)(1)(ii) are enclosed herewith.

NO.	TYPE OF PROCEEDING	REFERENCE NO.	DATE
1	N/A	N/A	N/A